INTEGRA

PIPETBOY acu Operating instructions

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CE

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INTEGRA Biosciences AG – 7205 Zizers, Switzerland

declares on its own responsibility that the product | erklärt in alleiniger Verantwortung, dass das Produkt | déclare sous sa responsabilité exclusive, que le produit | declara bajo su propia responsabilidad que el producto | dichiara sotto la propria responsabilità che il prodotto

PIPETBOY acu	**Models: 155000, 155015, 155 016, 155 017, 155 018, 155 019**

in accordance with EC directives | gemäss der EU-Richtlinien | est conforme au terme de la directives CE | de acuerdo con las directivas CE | in conformità alle direttive CE

2006/95/EC	Low voltage equipment
2004/108/EC	Electromagnetic compatibility
2002/95/EC	Restriction of Hazardous Substances
2002/96/EC	Waste Electrical and Electronic Equipment

is in compliance with the following normative documents: | mit den folgenden normativen Dokumenten übereinstimmt: | aux documents normatifs ci-après: | cumple las documentos normativos: | soddisfa le normative seguenti:

EN 61010-1:2001-02	Safety requirements for electrical equipment for measurement, control and laboratory use - General requirements.
EN 61326-1:2006	Electrical equipment for measurement, control and laboratory use - EMC requirements.

Standards for Canada and USA

CAN/CSA-C22.2 No.1010.1-92	Safety requirements for electrical equipment for measurement, control and laboratory use - General requirements.
UL Std. No. 3101-1	Safety requirements for electrical equipment for measurement, control and laboratory use - General requirements.
FCC, Part 15, Class A	Emission

Zizers, September 15th 2008

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1 Introduction

These operating instructions contain all information required for installation, operation and maintenance of the PIPETBOY acu. This chapter informs about the symbols used in these operating instructions, the intended use of the PIPETBOY acu and the general safety instructions.

1.1 Symbols used

The operating instructions specifically advise of residual risks with the following symbols:

WARNING
This safety symbol warns against hazards that could result in injury or death. It also indicates hazards for machinery, materials and the environment. It is essential that you follow the corresponding precautions.

CAUTION
This symbol cautions against potential material damage or the loss of data in a microprocessor controller. Follow the instructions.

NOTE
This symbol identifies important notes regarding the correct operation of the device and labour-saving features.

1.2 Intended use

The PIPETBOY acu is a pipetting aid designed for aspirating and dispensing aqueous solutions with plastic or glass pipettes of 1 to 100 ml volumes. It shall not be used for applications other than those specified.

1.3 Safety notes

The PIPETBOY acu corresponds to the state of the art, complies to the recognized safety regulations and is safe to operate. The PIPETBOY acu can be operated only when it is in perfect conditions and while observing these operating instructions.

The device may be associated with residual risks if it is used or operated improperly by untrained personnel. Any person charged with the operation of the PIPETBOY acu must have read and understood these operating instructions, and particularly, the safety notes, or must have been instructed by supervisors so that safe operation of the device is guaranteed.

Regardless of the listed safety notes, additionally applicable regulations and guidelines of trade associations, health authorities, trade supervisory offices, etc. must be observed.

Do not open, convert or alter the PIPETBOY acu in any way. Repairs may only be performed by INTEGRA Biosciences AG or by an authorised after-sales service member.

Parts may be replaced with original INTEGRA parts only.

WARNING

Do not use or charge the PIPETBOY acu in an atmosphere with danger of explosion. Also, do not pipette highly flammable liquids such as acetone or ether.

When handling dangerous substances, comply with the material safety data sheet (MSDS) and with all safety guidelines such as the use of protective clothing and safety goggles. Never point a pipette in anyone's direction.

CAUTION

Avoid pipetting of liquids whose vapours could attack the materials PA (polyamide), POM (polyoxymethylene), FPM (fluor-rubber), NBR (nitrile-rubber), CR (chloroprene), silicone. Corrosive vapours could also damage metallic parts inside the device.
Information on how substances can damage specific materials is given in "chemical resistance charts" that are available on the internet.

Use an original INTEGRA mains adapter only and protect it from moisture, otherwise the PIPETBOY acu might be damaged.

NOTE

Prolonged exposure of the PIPETBOY acu to UV-light can cause discolouration and/or yellowing of the plastic housing. However, this will not affect the performance of the device in any way.

2 Description of the device

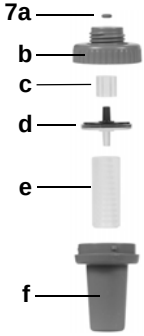
2.1 Scope of delivery

- PIPETBOY acu device
- 1 rechargeable battery (NiMH, 9 V, 160 mAh)
- Mains adapter
- Wall holder
- Sterile filter (spare)
- Operating instructions

CAUTION

Verify the scope of delivery when unpacking the device and check for potential transportation damage. Do not operate a device that is damaged, instead contact your local dealer.

2.2 Overview of the PIPETBOY acu



1 Aspiration button
2 Dispensing button
3 Thumb wheel for speed control
4 Battery charge indicator
5 Socket for mains adapter cable
6 Handle
7 Nose piece
- 7a O-ring
- 7b Top half of nose piece housing
- 7c Filter rubber
- 7d Sterilfilter
- 7e Pipette mount
- 7f Bottom half of nose piece housing

3 Installation

3.1 Charging the battery

When the battery charge indicator (4) flashes red, the PIPETBOY acu needs charging.

Plug the cable of the mains adapter in the socket (5) at the base of the device's handle (6) and connect the mains adapter to the power supply. Charge for 12 hours.

NOTE

Before first use, the batteries have to be fully charged for at least 16 hours. Longer charging times do not cause overcharging of the battery. For a long battery service life it is recommended to charge the battery immediately after the charge indicator flashes red in an environment cooler than 35 °C.

The PIPETBOY acu can be used while it is being charged.

WARNING

The supply voltage must meet the requirements of the mains adapter: 100-240 VAC, 50/60 Hz.

3.2 Replacing the battery

1) Move the lid of the battery compartment upwards and remove it (a).
2) Replace the old battery with an original INTEGRA rechargeable battery (9 V, 160 mAh) and make sure that it is inserted with the correct polarity (+/–).
3) Close the battery compartment with the lid (a).

3.3 Mounting of the wall holder

The optional wall holder serves to park the PIPETBOY acu.

To mount the wall holder, remove the protective foil from the adhesive tape at the back of the holder. Hold it with the sign <up> facing upwards and press it to the desired place. Make sure that the surface onto which the wall holder is mounted is smooth, clean and grease-free. Wait 24 hours before using the wall holder for the first time. Alternatively the wall mount can be fixed with the included screws.

4 Operation

4.1 Inserting the pipette

a) b)

The silicone pipette mount (7e) has a special conical channel in order to guarantee a firm and leak-proof grip of the pipette independently of its diameter.

Disassemble the nose piece (see “Cleaning and servicing” on page 10) and:

a) orient the pipette mount with the large opening facing down for pipettes > 2 ml (factory setting), or
b) orient the pipette mount with the small opening facing down for pipettes < 2 ml.

WARNING

Do not insert pipettes with force into the PIPETBOY acu, because they can break and cause injury, particularly thin pipettes made of glass.

4.2 Pipetting

Press the aspiration button (1) to fill the pipette and the dispensing button (2) to empty it.

Pipetting speed can be controlled in two manners:

- Coarse adjustment is achieved by turning the thumb wheel (3) that regulates the pump speed (turning to left = slower, for small pipettes; turning to the right = faster, for large pipettes).
- Fine speed adjustment for accurately moving the liquid’s meniscus in the pipette is achieved by varying the finger pressure on the buttons for aspiration and dispensing.

To empty the pipette by gravity force, press the dispensing button only slightly in order to avoid reaching the trigger point where the pump starts running. Gravity dispensing is used for “to deliver” (TD) pipettes that are not of the “blow-out” type (blow-out pipettes have two thin rings or a frosted band around the neck).

4.3 Troubleshooting

Problem	Probable cause	Remedy
Pipette drips (leak in the system).	Pipette is damaged or not fully inserted in the nose piece (7).	Reinsert a new pipette by pushing it all the way into the nose piece. Make sure that the pipette mount orientation is correct for the used pipette (see “Inserting the pipette” on page 8).
	The inside of the pipette mount (7e) is damaged resulting in insufficient sealing of the pipette neck.	Replace the pipette mount (Part No. 151020).
	The filter rubber (7c) or the filter (7d) in the nose piece are damaged or missing causing a leak.	Replace the filter rubber (Part No. 153225) and/or the filter (Part No. see “Accessories and consumables” on page 13).
Reduced aspiration efficiency or no liquid aspiration.	The filter (7d) is wet or dirty.	Replace filter.
	The nose piece (7) is not tight.	Tighten the nose piece, or replace defective parts.
	The battery is discharged (battery charge indicator flashes red).	Charge the battery.
	The battery is missing.	Insert the battery, or connect the instrument to the mains adapter.
	The battery is defective.	Replace the battery.
	The battery is wrongly inserted.	Insert correctly, note polarity (+) and (-).
Reduced operating time with fully charged battery.	The battery is worn.	Replace the battery.
	Wrong battery type is inserted.	Use only original consumables.

5 Maintenance

5.1 Cleaning and servicing

WARNING

Always disconnect the PIPETBOY acu from the mains when carrying out maintenance work.

If the PIPETBOY acu gets soiled, it can be cleaned with a cloth moistened with soapy water or with a 70 % ethanol. Never use acetone or other solvents. The nose piece housing (7b, 7f), the pipette mount (7e) and the filter rubber (7c) can be autoclaved at 121 °C.

Disassembly of the nose piece:

Unscrew the nose piece (7) from the handle by turning it counterclockwise. Hold the top half of nose piece housing (7b), press the bottom half (7f) firmly against the top half (7b) and turn it counterclockwise (left). The bottom half of nose piece housing (7f) will disengage after about 1/8th of a turn.
Remove the pipette mount (7e), the filter (7d) and the filter rubber (7c), if required.

It is recommended to change the hydrophobic filter (7d) every three months. Should the filter get wetted or soiled accidentally, it has to be changed immediately. The filter must be oriented with the blue side facing upwards towards the PIPETBOY acu.

After maintenance work, perform a leak test to ascertain correct functioning of the PIPETBOY acu: liquid should not leak out of a filled pipette before the dispensing button is pressed.

Regular servicing of the PIPETBOY acu by a qualified representative of INTEGRA Biosciences AG is recommended.

5.2 Equipment disposal

The PIPETBOY acu is labelled with the “crossed-out wheeled bin” symbol to indicate that this device must not be disposed of with unsorted municipal waste. Instead, it is your responsibility to correctly dispose of your waste equipment by handing it over to an authorised facility for separate collection and recycling. It is also your responsibility to decontaminate the device in case of biological, chemical, and/or radiological contamination so as to protect from health hazards the persons involved in the disposal and recycling of equipment.

For more information about where you can drop off your waste equipment for recycling, please contact your local dealer from whom you originally purchased the product or your local council.

By doing so, you will help conserve natural resources and you will ensure that your waste equipment is recycled in a manner that protects human health and the environment. Thank you!

6 Technical Data

Pipetting speed	max. 10 ml/s
Battery	Type: rechargeable, NiMH, 9 V, 160 mAh Charging cycles: 500-1000 (when charging as indicated) Charging time: 12 hours Initial charging should be at least 16 hours. Running time: at least 2000 cycles of aspiration and dispensing of 25 ml.
Mains adapter	Input: 100-240 VAC, 50/60 Hz Output: 17 VDC/180 mA
Materials	Housing: PA Nose piece: POM Pipette mount: Silicone Filter rubber: Silicone
Dimensions (H x W x D)	125 x 130 x 35 mm
Weight	220 g
Ambient conditions	Operation: 5-40 °C, max. 80% RH Storage: -10-50 °C, max. 95% RH

7 Accessories and consumables

Accessories		Part No.
Stand for PIPETBOY	for a well organised work area, to park the PIPETBOY acu with inserted pipette	155065
Vacuum tweezers	to pick and place small objects such as microscopy cover slips	155890
Nose piece	green, for PIPETBOY acu grey and transparent	155025
	grey, for PIPETBOY acu green, blue, red and purple	155070
Wall holder	for holding the PIPETBOY acu on the wall	155521
Mains adapter (100-240 VAC, 50/60 Hz)	EU version	153210
	US/JP version	153211
	UK version	153214

Consumables		Part No.
Filter 0.45 µm	sterile	153015
	unsterile	153016
Filter 0.2 µm	sterile	153608
	unsterile	153607
Pipette mount	silicone, for holding pipette in the nose piece	151020
Filter rubber	silicone, for holding the filter in the nose piece	153225
Battery	NiMH, 9 V, 160 mAh	153005

Imprint

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